4.1.10 AESTHETIC IMPACTS

This section describes potential aesthetic impacts from preconstruction testing and performance confirmation, construction, operation and monitoring, and closure activities. These activities would not cause adverse impacts to aesthetic or visual resources in the region. The analysis of such impacts considered the natural and manmade physical features that give a particular landscape its character and value as an environmental factor. The analysis gave specific consideration to scenic quality, visual sensitivity, and distance from observation points.

Yucca Mountain has visual characteristics fairly common to the region (a scenic quality rating of C), and visibility of the repository site from publicly accessible locations is low or nonexistent. The intervening Striped Hills and the low elevation of the southern end of Yucca Mountain and Busted Butte would obscure the view of repository facilities from the south near the Town of Amargosa Valley, approximately 22 kilometers (14 miles) away. There is no public access to the north or east of the site to enable viewing of the facilities. The only structures that could potentially be visible from the west and exceed the elevation of the southern ridge of Yucca Mountain [1,500 meters (4,900 feet)] would be the ventilation exhaust stacks (numbering 3 to 9) and support structures that could be located along the crest of the mountain. The exhaust stacks could be approximately 15 to 18 meters (50 to 60 feet) high, but a lower profile design could be implemented. The ventilation system would include intake and exhaust stacks, support structures, and access roads. The ventilation system would be constructed and maintained on approximately 105 acres and would include approximately 30 structures (DIRS 153849-DOE 2001, p. 2-33). Some of the exhaust stacks would likely be located along the crest of the mountain, while the intakes would be constructed along the eastern side of the ridge. The height of the ventilation intake structures would be lower than the exhaust stacks and would be constructed at lower elevations. Therefore, the intake stacks would not be as likely to impact the area aesthetically as the exhaust stacks. The presence of exhaust ventilation stacks on the crest of Yucca Mountain could be an aesthetic aggravation to Native Americans.

The intake and exhaust ventilation stacks might be angled, thereby lowering the height of the structure and lessening impact. Recontouring the area in the vicinity of the ventilation system structures and the use of natural vegetation as screening would also lessen potential impact. Because of the height of the ventilation stack structures above Yucca Mountain, the Federal Aviation Administration or the Air Force might require flashing beacon lights atop the stacks. If beacons were required, they could be visible for a great distance, especially west of Yucca Mountain. Closure activities, such as dismantling facilities and reclaiming the site, would improve the visual quality of the landscape. Adverse impacts to the visual quality due to closure would be unlikely.

DOE would provide lighting for operation areas at the repository. This lighting could be visible from public access points, especially from the west due to the ventilation structures atop Yucca Mountain. There would not be significant visual impacts due to repository lighting to users of Death Valley National Park. The towns of Amargosa Valley, Beatty, and Pahrump, located between the park and the repository, probably would cause greater impact to the nightly *viewshed* than operational lighting of the repository. The visual impact of the lighting from Las Vegas would also have significantly more impact in the region than that of the proposed repository. The use of shielded or directional lighting at the repository would limit the amount of light that could be viewed from outside the repository operational area.

As described in Section 4.1.1.2, land disturbance for the operating modes would not differ greatly, ranging from 4.3 to 6.0 square kilometers (1,000 to 1,500 acres), a small fraction of the 600 square kilometers withdrawn for the repository. The aesthetic impacts of the land disturbance resulting from implementation of the Proposed Action design would be temporary.

4.1.11 IMPACTS TO UTILITIES, ENERGY, MATERIALS, AND SITE SERVICES

This section discusses potential impacts to residential water, energy, materials, and site services from performance confirmation, construction, operation and monitoring, and closure activities. The scope of the analysis included electric power use, fossil-fuel and oil and lubricant consumption, consumption of construction materials, and onsite services such as emergency medical support, fire protection, and security and law enforcement. The analysis compared needs to available capacity. The region of influence would include the local, regional, and national supply infrastructure that would have to satisfy the needs. The analysis used engineering estimates of requirements for construction materials, utilities, and energy.

Construction activities would occur during both the construction and the operation and monitoring phases. Table 4-38 lists electric energy, fossil-fuel, and oil and lubricant use during the different phases. Table 4-39 lists construction material use. Both tables list comparative values for the higher-temperature operating mode and a range of values for the lower-temperature operating mode. DOE prorated impacts to site services, if any, with those to the commodity areas to produce an estimate of overall impacts.

Overall, DOE expects only small impacts to residential water, energy, materials, and site services from the Proposed Action. DOE would, however, have to enhance the electric power delivery system to the Yucca Mountain site for the operating modes considered.

4.1.11.1 Impacts to Utilities, Energy, Materials, and Site Services from Preconstruction Testing and Performance Confirmation

DOE would obtain utilities, energy, and materials for preconstruction testing and performance confirmation activities from existing sources and suppliers. Water would come from existing wells. Power would come from regional suppliers to the existing Nevada Test Site transmission system. Based on site characterization activities, these activities would not cause meaningful impacts to regional utility, energy, and material sources. In addition, DOE would continue to use such existing site services as emergency medical support, fire protection, and security and law enforcement (as described in Chapter 3, Section 3.1.11.3) during preconstruction testing and performance confirmation.

4.1.11.2 Impacts to Utilities, Energy, Materials, and Site Services from Construction, Operation and Monitoring, and Closure

Residential Water

Population growth associated with the Proposed Action could affect regional water resources. Based on the information in Section 4.1.6, in 2030 the Proposed Action would result in a maximum population increase of about 6,200 in Clark and Nye Counties. About 80 percent of these people would live in Clark County and about 20 percent in Nye County. Whether domestic water needs were satisfied predominantly from surface-water sources, as is the case for most of Clark County, or from groundwater sources, as for most of Nye County, these relatively small increases in population would have very minor impacts on existing water demands.

The maximum project-related population increase for Clark County would amount to about 0.4 percent of the 2000 population and less than 0.2 percent of the County's population in 2030 (see Chapter 3, Section 3.1.7). Correspondingly, the associated increase in water demand in the county as a result of the proposed project would be very small. The population of Indian Springs in Clark County would increase by a projected maximum of about 180 as a result of the Proposed Action. This number represents about 14 percent of the 2000 Indian Springs population and, based on a Las Vegas Valley average demand for domestic water of 720 liters (190 gallons) per day per person (DIRS 148196-SNWA 1999, all), would require a quantity of water that is about 9 percent of the community's quasimunicipal groundwater

Table 4-38. Electricity and fossil-fuel use for the Proposed Action.[a]

Phase	Operating mode: Higher-temperature	Operating mode: Lower-temperature
Phase/activity durations (years)		
Construction phase	5	5
Operations and monitoring phase		
Operations	24	24 or 50
Monitoring	76	99 - 300
Closure phase	10	11 - 17
Total	***115***	***171 - 341[a]***
Peak electric power (megawatts)		
Construction phase	25	25
Operations and monitoring phase		
Operations	47	40 - 54
Monitoring	7.7	7.8 - 15
Closure phase	10	10 - 18
Maximum	*47*	*40 - 54*
Electricity use (1,000 megawatt-hours)		
Construction phase	150	190 - 210
Operations and monitoring phase		
Operations	5,200	5,300 - 9,200
Monitoring	4,800	9,700 - 29,000
Closure phase	720	790 - 1,300
Total	***11,000***	***16,000 - 36,000[a]***
Fossil fuel (million liters)		
Construction phase	5.5	5.5 - 6
Operations and monitoring phase		
Operations	360	370 - 500
Monitoring	2.3	2.6 - 13
Closure phase	5.2	5.1 - 6.6
Total	***370***	***380 - 510[a]***
Oils and lubricants (million liters)		
Construction phase	2.6	3.1 - 3.5
Operations and monitoring phase		
Operations	8.5	9.8 - 18
Monitoring	9	13 - 53
Closure phase	2	1.8 - 3
Total	***22***	***33 - 71[a]***

a. These ranges might differ from simple addition of the minimum and maximum values listed for the constituent phases because these values might not correspond between different phases. For example, a scenario that maximizes impacts during construction could result in minimal impacts during operations.

withdrawal in 1997 [0.51 million cubic meters (410 acre-feet)] (DIRS 102170-NDCNR 1998, all). DOE expects the population of Indian Springs to be larger by 2030 and on a percentage basis, the contribution (and associated water demand) from project-related growth would be smaller than current numbers. However, this small community would be more likely to be affected by projected growth than other areas in Clark County.

In Nye County, estimates of domestic water demand for 1995 are about 750 liters (200 gallons) per day per person (DIRS 104888-Le Strange 1997, Table 10). At this demand, the project-related increase in Nye County population would result in an additional water demand of about 0.30 million cubic meters (240 acre-feet) of water per year. This represents about 0.3 percent of the water use in Nye County in 1995. As indicated in Section 4.1.6, most (about 92 percent) of the project-related growth in Nye County would occur in Pahrump. This would equate to adding about 0.28 million cubic meters (220 acre-feet) to Pahrump's annual water demand, which represents about 0.9 percent of the 1995 Pahrump water

Table 4-39. Construction material use for the Proposed Action.[a]

Usage	Operating mode	
	Higher-temperature	Lower-temperature
Phase/activity durations (years)		
Construction phase	5	5
Operations and monitoring phase		
Operations	24	24 or 50
Monitoring	76	99 - 300
Closure phase	10	11 - 17
Total	***115***	***171 - 341***[a]
Concrete (1,000 cubic meters)		
Construction phase	420	490 - 500
Operations and monitoring phase		
Operations	240	350 - 880
Monitoring	0	0
Closure phase	3	3 - 5
Total	***670***	***850 - 1,400***[a]
Cement (1,000 metric tons)		
Construction phase	160	190
Operations and monitoring phase		
Operations	100	150 - 340
Monitoring	0	0
Closure phase	1.2	1.2 - 1.9
Total	***250***	***310 - 530***[a]
Steel (1,000 metric tons)		
Construction phase	100	120
Operations and monitoring phase		
Operations	62	150 - 180
Monitoring	0	0
Closure phase	0.03	0.04
Total	***160***	***270 - 300***[a]
Copper (1,000 metric tons)		
Construction phase	0.2	0.23
Operations and monitoring phase		
Operations	0.08	0.24 - 0.6
Monitoring	0	0
Closure phase	0	0
Total	***0.3***	***0.5 - 0.86***[a]

a. These ranges might differ from simple addition of the minimum and maximum values listed for the constituent phases because these values might not correspond between different phases. For example, a scenario that maximizes impacts during construction could result in minimal impacts during operations.

withdrawal of 30 million cubic meters (24,000 acre-feet). By 2030, when the peak population increases would occur, the project-related increase in water demand would be an even smaller percentage of the total Nye County and Pahrump water need. The increase in domestic water demand in Nye County as a result of the proposed project would be very small.

Residential Sewer

Sewer utilities could be affected by population growth associated with the Proposed Action. In Clark County, where most of the population growth would take place, the fact that the maximum project-related population increase would amount to about 0.4 percent of the 2000 population indicates that impacts to the populous areas of the county (that is, the Las Vegas Valley) would be very small. In Indian Springs, where project-related growth would be a more substantial portion of the community population, small treatment facilities designed for a specific area or individual household septic tank systems would accommodate wastewater treatment needs. In either case, the added population would not be likely to cause overloading to a sewer utility.

Growth in Nye Country from the Proposed Action would be likely to occur primarily in the Pahrump area. There is no reason to believe that project-related population increases would overload a sewer utility. Again, small, limited-service treatment facilities or individual septic tank and drainage field systems would provide the primary wastewater treatment capacities.

Electric Power

During the construction phase, the demand for electricity would increase as DOE operated two or three tunnel boring machines and other electrically powered equipment. The tunnel boring machines would account for more than half of the demand for electricity during the construction phase. The estimated peak demand for electric power during the construction phase would be about 25 megawatts with use varying between about 150,000 and 210,000 megawatt-hours, depending on the operating mode. Excavation activities for the operating modes would use two or three tunnel boring machines. However, the operations time would increase for the lower-temperature operating mode because of the increased tunnel lengths.

As discussed in Chapter 3, Section 3.1.11.2, the current electric power supply line has a peak capacity of only 10 megawatts. DOE, therefore, is evaluating modifications and upgrades to the site electrical system, as discussed below, under Repository Electric Power Supply Options.

During the operations period, the development of emplacement drifts would continue in parallel with emplacement activities. During this period, the peak electric power demand would be between 40 and 54 megawatts, depending on the operating mode.

Following the completion of excavation activities, the demand for electric power would drop to about 21 to 34 megawatts and would continue to decrease, following the completion of emplacement and decontamination activities, to less than 15 megawatts for monitoring and maintenance activities. The closure phase would last from 10 to 17 years, depending on the operating mode. The peak electric power demand would be less than 18 megawatts for either of the operating modes during closure.

The repository demand for electricity would be well within the expected regional capacity for power generation. Nevada Power Company, for example, experienced a growth in peak demand of nearly 30 percent from 1993 to 1997 and has demonstrated the ability to meet customer demand in this high-growth environment through effective planning (DIRS 103284-Vogel 1998, all). Nevada Power's current planning indicates that it intends to maintain a reserve capacity of 12 percent. In 2010, at the beginning of the operation and monitoring phase, Nevada Power projects a net peak load of 5,950 megawatts and is planning a reserve of 714 megawatts (DIRS 103413-NPC 1997, Figures 2 and 4). The maximum 54-megawatt demand that the repository would require would be less than 1 percent of the projected peak demand in 2010, and less than 8 percent of the planned reserve. While the accuracy and viability of long-term planning for electrical power demand is now more uncertain than in previous years, DOE expects that regional capacity planning would accommodate the future repository demand.

Repository Electric Power Supply Options

As discussed above, the estimated repository electric power demand would exceed the current electric distribution capacity to the site after construction began in 2005. DOE would have to increase the electric power capacity to the site to accommodate the initial demand of about 25 megawatts during the construction phase and to support the estimated peak demand of as much as 54 megawatts during the operations period. A range of options including a modification or upgrade of the existing transmission and distribution system is under consideration to meet the repository electricity demand (DIRS 102045-CRWMS M&O 1998, all). DOE eliminated consideration of onsite generation of electricity in conjunction with the onsite plant that would generate steam for heating because the steam plant would be much smaller than a plant needed for power generation. DOE would, however, construct and operate a solar power generating facility close to the North Portal to support repository operations. The solar facility, which could produce as much as 3 megawatts of power, would be a dual-purpose facility, serving as a demonstration of photovoltaic power generation and augmenting the overall repository electric power supply (as much as 7 percent). In addition, DOE would also investigate using power supplied from a 436-megawatt wind farm proposed for the Nevada Test Site. This private-sector enterprise is currently being evaluated and has been described in a recent draft environmental assessment (DIRS 154545-DOE 2001, all). DOE has issued a Notice of Intent to prepare an environmental impact statement for this project (66 *FR* 38650; July 25, 2001). Other onsite generation capacity would use diesel-powered generators for emergency equipment.

As discussed in Chapter 3, Section 3.1.11.2, the repository site receives electricity through a feeder line from the Canyon Substation, which is rated at 69 kilovolts and has a capacity of 10 megawatts. The minimum modification would be to upgrade this line to 40 to 54 megawatts, modify the Nevada Test Site power loop to support repository operations in conjunction with other Test Site activities, and upgrade utility feeder lines to the Nevada Test Site. The existing Nevada Test Site power loop has a rated capacity of about 72 megawatts, but preliminary analysis of loop performance with a typical repository load (about 40 megawatts) indicated that unacceptable voltage reductions could occur at some Test Site locations. The minimum modification to the power loop to reduce the potential for unacceptable voltage reductions would be to install capacitors in the loop. Other options to obtain satisfactory performance for the power loop would include upgrading sections of the loop and the utility-owned feeder lines to the loop. Additional options, which would be variations of this approach, would include providing upgraded power lines directly from the utilities to the repository site.

As discussed in Chapter 3, Section 3.1.11.2, two commercial utility companies supply electricity to the Nevada Test Site feeder lines that power the Test Site power loop. Nevada Power Company owns and operates a 138-kilovolt line from the Las Vegas area to the Mercury Switching Station on the Test Site. Valley Electric Association owns and operates 138- and 230-kilovolt lines from the Las Vegas area to Pahrump and a 138-kilovolt line from Pahrump to the Jackass Flats substation on the Test Site near Amargosa Valley. The options DOE is evaluating include upgrading either or both of these lines. The options also include connecting both utility feeder lines directly to the repository with new 138- or 230-kilovolt lines to either the North or South Portal to obtain independent redundant power capability. DOE has considered constructing a new power line from the Tonopah/Anaconda area to near the Town of Amargosa Valley through Beatty with a direct tie to the South Portal at the repository. All system modifications would include appropriate modifications to transformers and switchgear. The approach in all cases would be to use existing power corridors where possible to limit environmental impacts and to reduce the need for additional rights-of-way. Depending on the option chosen, National Environmental Policy Act analysis would be conducted, as appropriate.

Fossil Fuels

Fossil fuels used during the construction phase would include diesel fuel and fuel oil. Diesel fuel would be used primarily to operate surface construction equipment and equipment to maintain the excavated rock pile. Fuel oil would fire a steam plant at the North Portal, which would provide building and process heat for the North Portal Operations Area. During construction the estimated use of diesel fuel and fuel oil would be 5.5 million to 6.0 million liters (1.5 million to 1.6 million gallons). The regional supply capacity of gasoline and diesel fuel is about 3.8 billion liters (1 billion gallons) per year for the State of Nevada, based on motor fuel use (DIRS 148094-BTS 1997, all). About half of the State total is consumed in the three-county region of influence (Clark, Lincoln, and Nye Counties) with the highest consumption in Clark County, so yearly repository use during the construction phase would be less than 1 percent of the current regional consumption.

Fossil-fuel use during the operation and monitoring phase would be for onsite vehicles and for heating. It would range between about 370 million and 500 million liters (about 98 million and 130 million gallons) depending on the repository operating mode. The annual use would be highest during the operations period and would decrease substantially during the monitoring period. The projected use of liquid fossil fuels would be within the regional supply capacity and would cause little impact. As discussed above, motor fuel use in the State of Nevada in 1996 was about 3.8 billion liters (1 billion gallons) (DIRS 148094-BTS 1997, all), which provides the baseline for the regional supply capacity. The highest annual use during the operations period would be less than 0.5 percent of the 1996 capacity in Clark, Lincoln, and Nye Counties.

During the closure phase, fossil-fuel use would be between 5.1 million and 6.6 million liters (1.3 million and 1.7 million gallons), depending on the repository operating mode. Use during the closure phase would be similar to that for the construction phase.

Hydraulic oils and lubricants and non-fuel hydrocarbons would be used to support operation of equipment during all phases of the project. The quantities of these materials used would range from about 20 million to about 70 million liters (5.3 and 18 million gallons). Because these materials would be recycled and reused, they are not considered in terms of impacts to the environment.

Construction Material

The primary materials needed to construct the repository would be concrete, steel, and copper. Concrete, which consists of cement, sand, aggregate and water, would be used for liners in the main tunnels and ventilation shafts in the subsurface and for the construction of the surface facilities. Aggregate available in the region would be used for concrete and cement would be purchased regionally. The amounts of concrete and cement required are listed in Table 4-39. During the construction phase the amount of concrete required would range from about 420,000 to 500,000 cubic meters (about 550,000 to 650,000 cubic yards), depending on the repository operating mode. For this phase, as much as about 120,000 metric tons (130,000 tons) of steel would be required for a variety of uses including rebar, piping, vent ducts, and track, and 200 to 230 metric tons (220 to 250 tons) of copper for electrical cables. Because the subsurface configuration of the repository would differ for the different operating modes, the relative amount of material used during the initial 5-year construction phase might not be indicative of the amount required to complete the subsurface through the end of development. For example, the amount of steel used during the construction phase for the range of operating modes would be about the same, but the total amount of steel used for the lower-temperature operating mode would be almost twice the amount that would be used for the higher-temperature operating mode.

For the lower-temperature operating mode, which would require the most concrete, the average yearly concrete demand for the construction phase would be about 100,000 cubic meters (about 130,000 cubic yards). The required quantity of concrete would not be expected to affect the regional supply system, which has been able to support the robust construction environment in Las Vegas. The quantities of cement required for the concrete are listed in Table 4-39 because this material would be purchased through regional markets and trucked to the site. This quantity of cement represents less than about 3 percent of the cement consumed in Nevada in 1998 (DIRS 104926-Bauhaus 1998, all).

Because the markets for steel and copper are worldwide in scope, DOE expects little or no impact from increased demand for steel and copper in the region.

The closure phase would require an estimated maximum of 5,000 cubic meters (6,500 cubic yards) of concrete and an estimated maximum of 40 metric tons (44 tons) of steel.

Overall Comparative Impacts

The overall impacts of the repository project in the areas of utilities, energy, and construction material can be compared by evaluating the quantities of these commodities that would be consumed over the life of the project. In general, the quantities of utilities, energy, and materials consumed over the life of the project would be small in comparison to the regional supply capacity, and would be unlikely to affect regional supplies or prices. A major reason for low impacts is the proposed repository schedule for most activities would extend over decades. Even though DOE would build a solar power generating facility on the repository site, it would be necessary to upgrade the transmission lines to the site for the repository to obtain adequate electric power for all the scenarios considered.

Site Services

During the construction phase, DOE would rely on the existing support infrastructure described in Chapter 3, Section 3.1.11.3, during an emergency at the repository. DOE would maintain these capabilities until the project could provide its own services on the site.

The primary onsite response would occur through the onsite Fire Station, Medical Center, and Health Physics facilities after their construction at the North Portal was complete. The Fire Station would maintain fire and rescue vehicles, equipment, and trained professionals to respond to fires, including radiological, mining, industrial, and accident events at the surface and subsurface. The Medical Center would be adjacent to the Fire Station, and would maintain a full-time doctor and nurse and medical supplies to treat emergency injuries and illnesses. These facilities would have the capability to provide complete response to most onsite emergencies. DOE would coordinate the operation of these facilities with facilities at the Nevada Test Site and in the surrounding area to increase response capability, if necessary.

A site security and safeguards system would include the surveillance and safeguards functions required to protect the repository from unauthorized intrusion and sabotage. The system would include the site security barriers, gates, and badging and automated surveillance systems operated by trained security officers. Support for repository security would be available from the Nevada Test Site security force and the Nye County Sheriff’s Department, if needed.

The emergency response system would provide responses to accident conditions at or near the repository site. The system would maintain emergency and rescue equipment, communications, facilities, and trained professionals to respond to fire, radiological, mining, industrial, and general accidents above or below ground.

The planned onsite emergency facilities should be able to respond to and mitigate most onsite incidents, including underground incidents, without outside support. Therefore, there would be no meaningful impact to the emergency facilities of surrounding communities or counties.

4.1.12 MANAGEMENT OF REPOSITORY-GENERATED WASTE AND HAZARDOUS MATERIALS

This section describes the management of the radioactive and nonradioactive waste that DOE would generate as a result of performance confirmation, construction, operation and monitoring, and closure activities. The range of operating modes would generate different quantities of waste.

The evaluation of waste management impacts considered the quantities of nonhazardous industrial, sanitary, hazardous, mixed, and radioactive wastes that repository-related activities would generate. Estimated waste quantities are presented in Tables 4-40 through 4-44 in Sections 4.1.12.2 and 4.1.12.4. These estimates were based on construction and operating experience, engineering data, water use estimates, material use estimates, and number of workers. The evaluation assessed these quantities against current public and private capacity to treat and dispose of wastes.

4.1.12.1 Waste and Materials Impacts from Preconstruction Testing and Performance Confirmation

DOE expects preconstruction testing and performance confirmation activities to generate waste similar to and in about the same quantities as that generated during characterization activities with the exception that low-level radioactive waste would be generated in minimal quantities (DIRS 104508-CRWMS M&O 1999, p. 17). Based on 1997 waste generation reports, preconstruction testing and performance confirmation activities should produce about 3,200 cubic meters (110,000 cubic feet) of nonhazardous construction debris and sanitary and industrial solid waste (DIRS 104952-Sygitowicz 1998, pp. 2 and 4) and about 170 kilograms (380 pounds) (volume measurements were not available) of hazardous waste (DIRS 104882-Harris 1998, pp. 3 through 6) that would require disposal. In addition, other waste would be recycled rather than disposed. Wastewater would be generated from runoff, subsurface activities, restrooms, and change rooms.

WASTE TYPES

Construction/demolition debris: Discarded solid wastes resulting from the construction, remodeling, repair, and demolition of structures, road building, and land clearing that are inert or unlikely to create an environmental hazard or threaten the health of the general public. Such debris from repository construction would include such materials as soil, rock, masonry materials, and lumber.

Industrial wastewater: Liquid wastes from industrial processes that do not include sanitary sewage. Repository industrial wastewater would include water used for dust suppression, rinsewater from concrete production and transport, and process water from building heating, ventilation, and air conditioning systems.

Low-level radioactive waste: Radioactive waste that is not classified as high-level radioactive waste, transuranic waste, byproduct material containing uranium or thorium from processed ore, or naturally occurring radioactive material. The repository low-level radioactive waste would include such wastes as personal protective clothing, air filters, solids from the liquid low-level radioactive waste treatment process, radiological control and survey waste, and possibly used canisters (dual-purpose).

Sanitary sewage: Domestic wastewater from toilets, sinks, showers, kitchens, and floor drains from restrooms, change rooms, and food preparation and storage areas.

Sanitary and industrial solid waste: Solid waste that is neither hazardous nor radioactive. Sanitary waste streams include paper, glass, and discarded office material. State of Nevada waste regulations identify this waste stream as *household waste*.

Hazardous waste: Waste designated as hazardous by the Environmental Protection Agency or State of Nevada regulations. Hazardous waste, defined under the Resource Conservation and Recovery Act, is waste that poses a potential hazard to human health or the environment when improperly treated, stored, or disposed of. Hazardous wastes appear on special Environmental Protection Agency lists or possess at least one of the following characteristics: ignitability, corrosivity, toxicity, or reactivity. Hazardous waste streams from the repository could include certain used rags and wipes contaminated with solvents.